

OHIO AGRICULTURAL R & D CENTER

APR 20 '70

LIBRARY

STATUS OF APPLE CULTIVARS FOR OHIO  
APPLE PRODUCTION

FREEMAN S. HOWLETT

DEPARTMENT OF HORTICULTURE

Ohio Agricultural Research and Development Center  
Wooster, Ohio

Horticulture Mimeograph Series No. 355A April 1, 1970

This page intentionally blank.

## Status of Apple Cultivars for Ohio Apple Production

Freeman S. Howlett

The number of apple cultivars adapted to Ohio climatic conditions is rather extensive. Because major emphasis for some years has been placed upon production for marketing at farm and roadside markets a wide range of cultivars has been suggested in order to spread the marketing season over a 9 months period. The harvesting period of these cultivars extends from July 16 to October 24. On the other hand, production for sale at supermarkets would entail only a relatively few cultivars. Cultivars suitable for processing would also involve selection of a smaller number upon the particular needs of the firm or institution involved.

In order to acquaint interested individuals with the various old and relatively new cultivars available for specific uses, the following information is presented below. The average picking date of each cultivar in the planting of the Department of Horticulture of the Ohio Agricultural Research and Development Center at Wooster is given on the same line as the name of the cultivar.

### Close - July 16

This cultivar is the earliest one ripening at Wooster. The fruits show some over-color and are valuable only for culinary use. The period of use for this purpose is very short. Apple sauce from this cultivar is satisfactory.

Stark Earliest - July 21

Fruits of this cultivar are harvested at the time of Yellow Transparent or a few days earlier. They have a red blush and a waxy white skin. The trees come into bearing rather early and are reported to produce well. The flesh is moderately tart. Oregon (Circular #386) reported that the sauce is very good and that the slices will retain their shape when cooked.

Yellow Transparent - July 23

This cultivar has been the standard early ripening one for many years, but now has been replaced to a considerable extent by Lodi. Lodi seems to remain firm for a slightly longer time. Apple sauce made from Lodi is very good, but slices tend to cook to pieces. Oregon (Circular #386) reports that the slices tend to have "a tart flavor and a pleasing light yellow color."

Lodi - July 26

The trees of this cultivar are large and vigorous and tend to alternate in bearing as is the case with Yellow Transparent. The fruits do not become mealy and soft around the core as rapidly as do those of Yellow Transparent. The fruits of Lodi make very good sauce but the slices tend to cook to pieces. It is suggested that trees of this cultivar, as well as those of Close and Yellow Transparent, be established on a semi-dwarfing stock.

Melba - August 6

Red Melba, a red-fruited mutation of Melba is preferable because of its more extensive red over-color. The fruits have very good flavor but the flesh is quite soft. In consequence they have a very short period during which their quality attributes are satisfactory. They make a good sauce but the slices tend to cook to pieces.



This cultivar is recommended only for Northern Ohio, where it is the earliest harvested cultivar with really good flavor.

Wellington - August 8

This cultivar, developed at the New York Agricultural Experiment Station, follows in picking season immediately after Melba, but its flavor is inferior to Melba. The fruits are large and develop attractive red stripes. Its season is short, and the fruits would primarily be used for culinary purposes.

Early McIntosh - August 11

This cultivar develops attractive red fruits which are rather small unless the tree is thinned rather heavily. The trees tend to bear annually and are productive. The dessert flavor is good but better than Melba. Sauce produced is good, but the slices tend to cook into pieces.

Beacon (Fenton) - August 15

This cultivar ripens about a week after Wellington. The fruits have attractive red stripes and the flesh is quite firm. The trees tend to bear alternately. The fruits have a better flavor than Wellington. They are reported to produce satisfactory sauce.

Tydemans Red (Tydemans Early) - Approximately Early McIntosh Season

A cultivar introduced from England, the fruits of which resemble McIntosh in size, shape and color, but are somewhat more tart. The tree tends to alternate unless severe thinning is carried out. The season of harvest is either just before or after Early McIntosh.

Red Gravenstein - August 25

This is a red colored bud mutation of the old Gravenstein cultivar well known for its good flavor when eaten fresh and its suitability for apple sauce

and pies. The fruits are large but are not uniform in shape or size. They keep well in refrigerated storage for one month.

One of the main advantages of this cultivar is the fact that it fits into the long period during which no really high quality cultivars are available between Early McIntosh and Wealthy.

Wealthy - September 2

Trees of Wealthy are actually spur-type and, in consequence, develop somewhat smaller than other non-spur cultivars. The fruits are usually fairly well colored and quite firm, keeping in refrigerated storage for a reasonable period. The trees tend to bear alternately with the yields in proportion to the size of the tree. The fruit makes excellent sauce but sliced tends to cook to pieces.

Summer Rambo - September 6

The fruits are large, not too well colored, and are of value only for culinary purposes. Redsumbo, a red colored bud mutation, has become available and is preferred nationally.

Red Warrior

Insufficient experience has been obtained with the cultivar at Wooster. It is reported to ripen a few days ahead of Wealthy. The fruits have a solid red blush, possess firm flesh, and only fair dessert flavor. The trees show a distinct tendency to alternate bearing.

McIntosh - September 14

This cultivar is one of the most productive of any grown in Northern Ohio, where it has been of major importance for many years. The fruits generally have insufficient over-color unless the nitrogen content of the foliage is kept at a minimum level. The trees are large, bear annually, and are very productive. The

fruits often tend to drop before they are sufficiently well colored, tend to bruise easily, and therefore cannot stand rough handling. They have a desirable flavor and thus are very suitable for utilizing fresh. At the same time, they make good sauce but the slices tend to cook to pieces.

Several bud mutations of McIntosh are available and trees of one of these is suggested rather than those of the old type.

Boller McIntosh  
Cornell McIntosh  
Geneva McIntosh  
Imperial All Red McIntosh (Summerland Strain)  
Nured McIntosh  
Roger's McIntosh

Possibly Imperial All Red McIntosh, Nured McIntosh and Roger's McIntosh are preferable, although the difference between the mutations are undoubtedly very slight.

#### Spartan

This cultivar, also a McIntosh seedling (McIntosh x Yellow Transparent) matures one to 2 weeks after McIntosh. The fruits have firmer flesh than McIntosh, but in Ohio fruit size and color have not equaled McIntosh. The cultivar tends to bear annually and is considered to be superior to McIntosh in refrigerated storage.

#### Franklin

Franklin was originated at the Ohio Agricultural Research and Development Center. The fruits, when properly grown and harvested at the proper picking date, have as high a dessert flavor as practically any other cultivar grown in Ohio. Since its parents are McIntosh and Delicious, it has inherited certain fruit and tree characteristics of both. As is true with McIntosh, the trees must be pruned sufficiently to permit good light in the tree and nitrogen

fertilizer must be somewhat reduced. The fruits tend to bruise easily and must be carefully handled. The tree is an annual bearer. The preferable season for eating fresh is October 15 through November. The fruits make good apple sauce, but slices tend to cook to pieces.

This cultivar should be grown only where McIntosh does well, which is in Ohio in the Northern half of the State. Franklin is primarily recommended for dessert use during the early fall period.

Cortland - September 28

This cultivar, which has McIntosh inheritance is gradually losing popularity. The fruits develop good size, color and flavor, but shortly lose their subacid state unless kept in refrigerated storage at the proper temperature. The trees tend to bear annually. Cortland should be planted only in Northern Ohio. The fruits should primarily be used in their fresh state.

Jonathan - September 29

Jonathan is one of the most suitable cultivars for planting in any section of Ohio. The fruit, while only medium in size, are well colored, attractive, and suited for both fresh use as well as processed. Very large fruits must be utilized promptly, since they may quickly develop considerable internal breakdown.

The trees bear annually. They are quite subject to fireblight.

Several bud mutations are offered by nurseries as follows:

Anderson Jonathan  
Blackjon  
Double Red Jonathan  
Imperial All Red Jonathan  
Jonared

Probably one of these should be selected, although the preferable mutation



cannot be stated at this time.

Macoun - October 2

Renewed interest in this cultivar has developed in recent years. The fruits are utilized primarily for sale at roadside or farm markets. They have very good flavor and their size is satisfactory if thinning is properly carried out. The trees have a tendency to bear annually. This cultivar is adapted only to the McIntosh growing area.

Delicious-Type Cultivars - October 7

During the last 25 years three major developments have taken place with the Delicious cultivar. They are:

1. Introduction and planting of the improved color mutations, named Richared, Starking and Shotwell Delicious.
2. Discovery of earlier coloring mutations --- non-spur type.
3. Discovery of spur-type early coloring mutations.

1) Introduction and planting of Richared, Starking and Shotwell Delicious -

These mutations have become well established due to their improved color as compared to Delicious. A perennial discussion has taken place for 2 decades as to which one is preferable, with no consistent agreement. However, the argument has become academic with the discovery of the very early coloring bud mutations including those of the spur-type.

2) Early coloring mutations --- non-spur type - The principal cultivars of the non-spur type now available are:

Chelan Red Delicious  
Double Red Delicious  
Gardner Delicious

Imperial Red Delicious  
Red King Brauns  
Red Prince Delicious  
Red Queen  
Ryan Red Delicious  
Topred Delicious  
Vance Delicious

These mutations have largely originated from Starking. In each instance they tend to initiate red over-color earlier than Delicious, but as far as is known they mature at the same time as Delicious, Richared and Starking.

3) Early coloring mutations of the spur type - The best known of these are:

Miller Sturdeespur Delicious  
Redspur Delicious  
Starkrimson  
Wayne - Spur Red Delicious  
Wellspur Azwell Strain Delicious

The superiority of any one of these has not been satisfactorily ascertained. All tend to develop red color over the entire surface. In certain instances, traces of stripes may be evident. The fruits may develop a too dark over-color which, to some consumers, detracts from their appearance. Again, the flesh is not believed to mature earlier than that of Delicious, Richared and Starking.

Trees of the spur type come into bearing earlier than the non-spur, and tend to be more upright. In view of their dwarfing tendency they should be propagated only on apple seedling roots or at the most on Malling-Merton lll.

Use of Delicious - The fruits of Delicious are suitable only for fresh use, either eating out of hand or in salads. They should be stored promptly and kept under refrigeration in order to eliminate rapid development of mealiness and lessening of flavor.

Present Status of New Plantings - Delicious has been, and is more commonly planted nationally, than any other cultivar. Spur types have become increasingly popular due to their earlier bearing and smaller trees.

Idared - October 15

This cultivar, developed in Idaho, has received increased attention in New York and Michigan. The fruits are usually well colored and attractive. Their flavor is fair to good and the flesh is firm and white. Keeping quality in refrigerated storage has been good. The fruits make acceptable frozen slices and apple sauce.

The trees are susceptible to mildew and fireblight.

Melrose - October 15

This cultivar, originated at the Ohio Agricultural Research and Development Center, produces high quality, well colored fruits. They may develop some russetting with caustic sprays and the amount and intensity of over-color depends upon the amount and type of pruning given the trees, and nitrogen supply. The fruits hang exceedingly well on the tree. If left too long on the tree the preferable period of consumption is from November 1 to January 1. If harvested at the proper time, the fruits will keep very well in refrigerated storage into March and April. The fruits are free of Jonathan spot and possess as high quality as any cultivar in its season. As a cross between Jonathan and Delicious, it has inherited several characteristics of each. The trees come into bearing early, develop large size and in our oldest orchard at Wooster is one of the three highest yielding cultivars. Melrose should be propagated on Malling Vll or Malling-Merton 106. The fruit makes good sauce and holds firm when cut into pieces and used for culinary purposes.

Golden Delicious (Yellow Delicious) - October 18

Golden Delicious is one of the most popular cultivars now firmly established in the Pacific Northwest (as a pollinizer for Delicious-type cultivars) and in the North Central and Eastern States. The fruits develop very high dessert quality, but under conditions of low humidity they tend to shrivel. Unfavorable environmental conditions may result in considerable fruit russetting. Certain newly discovered bud mutations are reported to be free from russetting but this fact has not yet been sufficiently verified.

Recently, spur type mutations have been discovered. Those now receiving major attention are:

Goldspur Delicious  
Nugget Yellow Delicious  
Sundale Sturdeespur Golden Delicious ---  
Plant Patent 2334

The latter is also known as Goldspur Sundale Spur Type Golden Delicious --  
Plant Patent 2334.

The fruits of Golden Delicious are very suitable for both fresh and culinary use. Actually they are particularly good when baked.

Ruby - October 18

This cultivar originated at the Ohio Agricultural Research and Development Center as a cross between Gallia Beauty and Starking is one of the firmest, latest keeping of any cultivar grown at the Center. The fruits are completely covered with a solid dark red carmine. They are firm but possess a dessert flavor only slightly surpassing Rome Beauty and Gallia Beauty. In refrigerated storage they may be kept until May and June. The fruits are less susceptible to scald than Rome Beauty. Due to their firmness apple slices are firm and do not cook to pieces.

The trees come into bearing early and are very productive. Due to their smaller size, their planting distance should be considerably less than that for Melrose, Stayman Winesap and McIntosh, unless these cultivars are propagated on semi-dwarfing rootstocks. Unfortunately the crotch angles are very narrow and consequently tree training represents a special problem.

Stayman Winesap - October 19

Fruits of Stayman Winesap cultivar which, for a period of time seemed to be particularly susceptible to cracking, actually possess particularly high dessert quality and are very satisfactory for processing. Within the last five years much less cracking has occurred, a result which may possibly be due to the predominance in present production of red mutations of this cultivar. Although Stayman Winesap developed poor fruit color and consequently reduced flavor under high nitrogen treatment and insufficient pruning, the highly colored mutations are very desirable. For a time also Stayman Winesap fruits seemed to breakdown following harvest, but it has become evident that properly matured fruits held in refrigerated storage will keep well and have very desirable processing characteristics while at the same time maintaining good flavor.

The cultivar produces large trees and high yields when planted on the most frost-free sites.

The bud mutations which should be planted instead of the conventional Stayman Winesap are:

Blaxtayman  
Double Red Stayman 201  
Early Red Neipling's Stayman  
Improved Blaxtayman 201  
Red Stayman 201  
Scarlet Staymared

It should be noted that actually three of these may be identical.

In view of their large tree size these mutations should be propagated on such semi-dwarfing stocks as Malling V11 or Malling Merton 106. However, no experience has been obtained with Stayman Winesap cultivars on this rootstock.

Turley - October 19

This cultivar belongs to the Stayman Winesap group and the fruits are not always easily distinguishable from that cultivar. The fruits are usually well colored and do not crack as has occasionally been the case with Stayman Winesap. The fruits presumably have the same processing characteristics as that cultivar.

The trees come into bearing early and are very productive.

Rome Beauty - October 19

Rome Beauty and cultivars of the Rome Beauty type such as Gallia Beauty have, for several decades, served as the "backbone" of the Ohio apple industry. With the accelerated popularity of cultivars of the Delicious type, the relatively poor flavor of Rome Beauty and Gallia Beauty have tended to decrease its importance. The fact that these cultivars are late blooming, annual bearing and heavy bearers continues to be of much significance. The fact that the fruits of Gallia Beauty and Red Rome Beauty are harvested late and keep well in refrigerated storage has continued to lend additional support for this cultivar. Furthermore, since the Rome Beauty type cultivars tend to make satisfactory apple slices its value for processing has been of outstanding importance.

The principal red mutations of Rome Beauty available in nurseries are as follows:

Barkley Red Rome  
Neipling's Red Rome  
New Red Rome  
Red Rome Beauty  
Red Rome #262  
Stark Rome Beauty



Gallia Beauty may be a bud mutation of Rome Beauty although its reported origin indicates that it is a seedling.

Several of the above bud mutations are indistinguishable. Their superiority over Gallia Beauty is questionable.

This page intentionally blank.

This page intentionally blank.

This page intentionally blank.